

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 8 and 9 are requested to be cancelled without prejudice or disclaimer.

Claims 4 and 10 are currently being amended. Support for the amendment to claim 4 can be found at least in original claims 8 and 9, in paragraphs [0026] and [0036] of the specification, and in FIG. 4B. New claim 14 has been added. Support for new claim 14 can be found at least in paragraph [0036] of the specification, and in FIG. 4B.

This amendment adds, changes and deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 3-7, 10-12 and 14 are now pending in this application.

Specification

The Office Action stated on page 2, "The amendment filed on 5/10/04 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure", and further indicated that the added material was "the circular groove surrounding the gas exit." As an initial matter, it appears that the Office Action intended the amendment filed on April 20, 2007, as no amendment was filed on May 10, 2004. Without agreeing with this objection, the claims have been amended to remove the feature "the circular groove surrounding the gas exit", thus overcoming the objection.

Rejection under 35 U.S.C. § 103

Claims 3-9 and 11-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,060,686 to Jones (hereafter "Jones") in view of U.S. Patent No. 6,667,456 to Mukasa et al. (hereafter "Mukasa") or WO 96/38358 to Szelagowski et al.

(hereafter “Szelagowski”). Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Jones and Mukasa or Szelagowski, and further in view of U.S. Patent No. 3,632,955 to Cruickshank et al. (hereafter “Cruickshank”) or U.S. Patent No. 4,867,560 to Kunitsudu et al. (hereafter “Kunitsudu”). Applicants respectfully traverse these rejections for at least the following reasons.

Claim 4, as amended, recites “wherein the nozzle has a circular groove extending in a circumferential direction on the flat surface area facing the workpiece, the groove having a trench shape.” The references applied in the rejection of the claims fail to disclose at least this feature of claim 4.

The Patent Office recognizes that Jones does not disclose a circular groove in its nozzle, but relies on Mukasa or Szelagowski for disclosing such a feature. Neither Mukasa or Szelagowski, however, discloses a groove having a trench shape on the flat surface area of a nozzle facing a workpiece, and thus even if there were a proper reason to combine Mukasa or Szelagowski with Jones in the manner recited in the Office Action, which there is not, the combination would not have all the features of claim 4.

Mukasa discloses a laser welding apparatus with a nozzle 3 having a coaxial nozzle 6, a discharging nozzle 7, and an evacuating nozzle 8. None of the coaxial nozzle 6, discharging nozzle 7, or evacuating nozzle 8 of Mukasa, however, is a groove having a trench shape. Rather, the nozzles 6, 7 and 8 pass all the way through the nozzle 3, and thus do not have a trench shape.

Szelagowski discloses a device for welding including a disc-shaped nozzle arrangement 13 with a resilient seal 15 to be urged against a workpiece 16. The nozzle arrangement 13 also has a plurality of apertures 17 in the surface of the nozzle. Szelagowski, however, does not disclose as recited in claim 4, “a circular groove extending in a circumferential direction on the flat surface area facing the workpiece, the groove having a trench shape.” The apertures 17, while arranged on a flat surface of the Szelagowski nozzle facing the workpiece 16, do not extend in a circumferential direction, nor do they have a

trench shape. Moreover, the elements 22 in the Szelagowski device are part of the resilient seal 15, and are not arranged in the flat surface of the nozzle facing the workpiece, and thus even if the elements 22 could possibly be considered to form trench shaped grooves, such grooves would not be in the flat surface of the nozzle facing the workpiece as required in claim 4.

In sum, neither Szelagowski nor Mukasa discloses as recited in claim 4, “a circular groove extending in a circumferential direction on the flat surface area facing the workpiece, the groove having a trench shape.” Thus, even if Jones were modified to include features from Szelagowski or Mukasa, the resultant structure would not have all the features of claim 4.

Cruickshank and Kunitsudu were cited for disclosing other features of the claims, but fail to cure the deficiencies of Jones, Szelagowski and Mukasa.

The dependent claims are patentable for at least the same reasons as claim 4, from which they depend either directly or indirectly, as well as for further patentable features recited therein.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for

such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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